steel square across and even with the edges of a board, and by pricking off seven inches from each end of the square, as shown, you have the points for the angles of an octagon figure. Fig. 4 shows an easy way to square a foundation, fence, or piece of land. Set a stake, 1; then set stake 2, exactly eight feet from stake 1, and in proper line; then measure down the other side six feet from stake 1, then the line across the angle will be exactly ten feet, if the two boundary lines are at right angles. If the diagonal line is more or less than ten feet, No. 3 stake must be moved until the distance between the stakes 2 and 3 is just ten feet distance from each other, always keeping No. 3 stake exactly six feet from stake No. 1.

Fig. 5 shows a method for obtaining the length and bevel of hip and jack rafters. B shows the down cut for the common rafter, C the plumb cut of the hip, D the side cut of the jack rafters, E the butt cut of the hip, F the length of jack rafters; A is the common rafter, and G is the butt cut of same.

The WOOD-WORKER is just the thing we want, plain and full of practical matter.

How about that new steel square?

AMBROSE RETTEFER.

LITTLE ROCK, ARK., Feb. 1, 1879.

Editor of the Wood-Worker:

A. P. G., in question No. 4, of the ILLUSTRATED WOOD-WORKER, wants to know the name of the firm manufacturing the best combination planes, and some one signing himself "HARD CASE"—which, by the way is a very appropriate name for him—says that the Stanley Rule and Level Company make the best C. planes, and he also says that "the best are scarcely worth chest room; when you go to buy, don't!" "HARD CASE" is either no mechanic, or never saw one of Bailey's combination matching planes, plough and fillister. My answer to A. P. G. is, that I have used one of Bailey's planes for six years, and instead of it not being worth chest room, I would build an extra chest for it rather than be without it. Now, A. P. G., when you go to buy a Bailey C. plane, do!

J. L. LONG.

FREEPORT, PA., Feb. 17, 1879.

Editor of the Illustrated Wood-Worker:

I SEND you a method of obtaining the bevels, cuts, and lengths required in constructing a hip roof. The method is similar to the one used for obtaining hopper cuts. The bevel T N, Fig. 1, plate 23, is the side cut; X E is the down cut. It must be understood that the roof as shown is built with principal rafters. On the same Fig. is also shown the method of obtaining the length and bevels of the jack or minor rafters. The bevel S is for the edge of jack, bevel L is the down cut. You will observe how I produce bevel S by running a line parallel with plate from point of jack, also from short side of bevel, then square out a line from back of common rafter, then take thickness of jack and set out on square line, then, where joints of jacks intersect, draw a line to mark on square line, and in the angle is seen the bevel for edge of jack. The other parts of the drawing will be easily understood.

Alonzo says his method for getting hip rafters may be old; well, yes, but it is good notwithstanding. JAMES W. GRANT.

ST. CATHERINE'S, ONT.

To the Editor of the Wood-Worker:

PERMIT me to make the following suggestions regarding the WOOD-WORKER, which I know will be acceptable to many of the younger mechanics who take your valuable paper. First, I would like you to give some mathematical rules in connection with your excellent papers on "Practical Carpentry." I would also like to see the different tools used by carpenters and joiners taken up, and their care and uses discussed. I would also like to see some papers on the construction of the carcase of stairs. The country is full of works on hand-railing, but there is very little said concerning the stairs themselves, and many young fellows, like myself, would like a few lessons on stair-building before it would be in order to tackle a hand-rail.

WM. A. G.

To the Editor of the Illustrated Wood-Worker:

I AM very much pleased with the WOOD-WORKER; it is just what the workmen require. I think, however, it would be an improvement if your artist would not use so much shading in his designs, as I find it somewhat difficult to make out the different parts of the designs, on account of their being buried in the shadow of the background. This is merely a suggestion, however, and I may be the only one of your many readers who may find any trouble on this account. J. N. S.

NEW LONDON, CONN., Feb. 13, 1879.

High Speed in Woodworking.

A MANUFACTURER of camp furniture in Birmingham has devised a special plan for this branch of wood-working, and the various machines used work at a speed far beyond any thing hitherto achieved, as an instance of which may be quoted the machine used for planing the wood. The wood passes through this machine at the rate of 1500 feet per minute, and on a recent occasion the accidental acceleration of the engine brought the speed of traverse up to 2000 feet per minute, at which the machine did its work as well as at the ordinary speed. The surface of the wood is as smooth as if done with a good hand-plane.

Though ordinarily used for wood from 1¼ inch to 1½ inch in thickness, this machine will plane Venetian-blind laths, or wood 3 inches or 4 inches thick and up to 6 inches wide. When this machine is fed by two lads the pieces of wood leave the machine like a rapid and continuous flight of rockets, and a wooden butt or target is found necessary to stop them from being shot to an inconvenient distance in the factory. In practice it is found advisable to plane the wood in very long pieces, as otherwise it is impossible to feed the machine half fast enough.

Intercommunication.

THIS department is intended to furnish, for the benefit of all our readers, practical information regarding the art of manipulating wood by hand or machinery; and we trust that every reader of our paper will make the fullest use of it, both in asking and answering. All persons possessing additional or more correct information than that which is given relating to the queries published, are cordially invited to forward it to us for publication. All questions will be numbered, and in replying it will be absolutely necessary, in order to secure due insertion, that the NUMBER and TITLE of the question answered should be given; and in sending questions, the title of key-words of the question should be placed at the head of the paper. Correspondents should in all cases send their addresses, not necessarily for publication, but for future reference. We also request that all questions or answers be written on separate slips of paper, and addressed to the Editor. Notes of practical interest will be welcome at all times. When drawings are sent to illustrate answers to questions, or for full pages, they should be on separate slips, and should be drawn in ink on clean, white paper. Short questions, requiring short answers, may be asked and answered through the agency of postal cards.

When answers to questions are wanted by mail, the querist must send a stamp for return postage.

Queries.

13. MOULDINGS.—I wish to "stick" some segmental mouldings for sash heads and other purposes. I am aware that in city and town shops where shaping machines are used no difficulty is experienced; but as I have only a small sticker the job seems almost impossible. I am informed, though, that it can be done. Will any of your readers explain, through your answer column, how the trick is performed on a one-head sticker? I wish to "stick" some curved mouldings that will be parallel, and others that will be straight on one edge and concave on the other. A full description of the method by which curved mouldings can be "stuck," on a single-head striker, will be of interest to many of your village and country readers.—PUZZLED.

14. MACHINE CUTTERS.—Can you inform me how to get the shape of moulding cutters for shaping and moulding machines?—B. G.

15. CORNER CUPBOARD.—Will you permit me to ask you, or some of our readers, to publish in the ILLUSTRATED WOOD-WORKER a design for a corner cupboard? The sides of the cupboard must not be more than 18″ wide, as there is not space for a greater width. I would like a glass door on it, and about three shelves in it; also an ornamental top, and, if considered in good taste, a central bracket underneath. The designer will place me under obligation if he will publish a description of it, and name the materials of which it should be made. It is to go in a dining-room where all the furniture and woodwork are of oak. The cupboard must not be more than three feet eight inches high.—AMATEUR.

15. EMBLEMS.—Will some of your readers kindly inform me what the emblems of carpentry and joinery are? I would also be pleased to see a description of the Marquois rule; and please state if they are patented, and where they can be obtained, and at what price.—APPRENTICE.

16. SCALE.—Will you, or any of your correspondents, inform me how to use the diagonal scale found on some of our steel squares, and how to apply it to practical use?—APPRENTICE.

16. SECRETARY.—I wish to make a secretary having drawers on each side under the desk, and a place above for account-books, letters, etc. I wish it quite plain, and made of native woods. Will any of your contributors publish in the WOOD-WORKER such an one?—H. E. THOMAS.

17. CROCKET'S PRESERVATIVE.—Will some of your readers kindly inform me as to what is "Crocket's Preservative," for walls, and how used?—J. W. D.

Answers.

WE wish it distinctly understood, that we do not hold ourselves responsible for the accuracy or reliability of answers furnished to this department by our correspondents.

We cordially invite our readers to take an active part in this department, as we are confident that much good can be accomplished by a free interchange of ideas and opinions in regard to subjects connected with the art of wood-working.

Many persons are afraid to write to a public journal because of their lack of literary attainments; to such we would say: Give us your ideas in such language as you can command, and leave the rest to us. It is ideas and opinions we want, such as may be of use to the workingman.

6. SCREW-DRIVER.—The handle of a long screw-driver being necessarily greater than that of a short screw-driver, it affords more leverage, hence it drives a screw with greater ease than a short driver with a smaller handle.—TWIST.

6. SCREW-DRIVER.—A long screw-driver blade is much easier to handle, as it permits both hands to come in play. The long blade also acts as an "accumulator of force," inasmuch as it will spring half ways round before the whole force reaches the point, and when held in this position until a second effort is made by the operator, there is nearly a double force employed in turning the screw.—GUESS.

7. MITRE.—I seldom use a mitre-box or templet to cut any moulding except spring mouldings. In laying floors, putting on siding, and many other things, I always "cut" by the eye alone, scarcely ever using a square